

Appendix B

Ecology

Information Included in Appendix B, Ecology

- B-1 Correspondence regarding Species and Habitats
- B-2 Information on Species and Habitats
- B-3 Consultation Related to Northern Long-Eared Bats
- B-4 Consultation Related to Bald Eagles

B-1 Correspondence regarding Species and Habitats

LETTER FROM NY NATURAL HERITAGE PROGRAM
DATED AUGUST 27, 2008

NOT INCLUDED AT REQUEST OF NY NATURAL HERITAGE PROGRAM
BECAUSE OF CONFIDENTIAL INFORMATION

LETTER FROM NY NATURAL HERITAGE PROGRAM
DATED JANUARY 26, 2010

NOT INCLUDED AT REQUEST OF NY NATURAL HERITAGE PROGRAM
BECAUSE OF CONFIDENTIAL INFORMATION

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Fish, Wildlife & Marine Resources

625 Broadway, 5th Floor, Albany, New York 12233-4757

Phone: (518) 402-8935 • **Fax:** (518) 402-8925

Website: www.dec.ny.gov



Joe Martens
Commissioner

March 20, 2012

Elizabeth Nemeth
AKRF Environmntl and Planning Consultants
440 Park Avenue South, 7th flr
New York City, NY 10016

Dear Ms. Nemeth:


In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to an Environmental Assessment for the proposed Bridge Replacement – the Portageville Bridge providing rail crossing of Genesee River at Letchworth State Park, site as indicated on the map you provided, located in the Counties of Wyoming and Livingston.

Enclosed is a report of rare or state-listed animals and plants, significant natural communities, and other significant habitats, which our databases indicate occur, or may occur, on your site or in the immediate vicinity of your site. For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our databases. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental impact assessment.

The enclosed report may be included in documents that will be available to the public. However, any enclosed maps displaying locations of rare species are considered sensitive information, and are intended only for the internal use of the recipient; they should not be included in any document that will be made available to the public, without permission from the New York Natural Heritage Program.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

Sincerely,

Jean Pietrusiak, Information Services
NYS Department Environmental Conservation

Enc.

cc: Reg. 8 and 9

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Natural Heritage Report on Rare Species and Ecological Communities



NY Natural Heritage Program, NYS DEC, 625 Broadway, 5th Floor,
Albany, NY 12233-4757
(518) 402-8935

~The information in this report includes only records entered into the NY Natural Heritage databases as of the date of the report. This report is not a definitive statement on the presence or absence of all rare species or significant natural communities at or in the vicinity of this site.

~Refer to the User's Guide for explanations of codes, ranks and fields.

~Location maps for certain species and communities may not be provided 1) if the species is vulnerable to disturbance, 2) if the location and/or extent is not precisely known, 3) if the location and/or extent is too large to display, and/or 4) if the animal is listed as Endangered or Threatened by New York State.

Natural Heritage Report on Rare Species and Ecological Communities



COMMUNITIES

Shale cliff and talus community

This occurrence of Shale Cliff and Talus Community is considered significant from a statewide perspective by the NY Natural Heritage Program. It is either an occurrence of a community type that is rare in the state or a high quality example of a more common community type. By meeting specific, documented significance criteria, the NY Natural Heritage Program considers this occurrence to have high ecological and conservation value.

Office Use

NY Legal Status: Unlisted

NYS Rank: S3

10162

Federal Listing:

Global Rank: G4

Last Report: 2000-09-20

EO Rank:

County: Livingston, Wyoming

Town: Castile, Genesee Falls, Leicester, Mount Morris, Portage

Location: Letchworth State Park

General Quality and Habitat: This is a large community consisting of multiple patches that flank the Genesee River and portions of its tributaries. Scouring action and hydrological processes that created and maintain the community are influenced somewhat by the presence of Mount Morris Dam, located downstream, but impacts are likely minimal, only affecting the lower portions of the 400-500 foot cliffs. The landscape is fragmented, but the community is centered within a 14,500 acre natural area with good to excellent overall interna This shale cliff and talus community occupies the exposed limestone/shale bedrock that makes up the walls of Letchworth Canyon, an approximately 22 mile gorge of the Genesee River. The landscape surrounding the community is largely farmland in all directions with maximum elevations of about 1300 feet on rolling hilltops. Mature Appalachian oak-hickory and hemlock-northern hardwood forests dominate the landscape. Large patches of maple-basswood rich mesic forest are encountered on fine textured soils often associated with significant rock outcropping and north-facing slopes, and small patches of red-maple hardwood swamps occur along level streams and in wet depressions. The presence of the meandering Genesee River adds considerable diversity to the area

NON-VASCULAR PLANTS

Conardia compacta

Coast creeping
moss

NY Legal Status: Unlisted

NYS Rank: S1 - Critically imperiled

Office Use
13201

Federal Listing:

Global Rank: G3G5 - Vulnerable

Last Report: 2005-su

EO Rank: Extant

County: Wyoming

Town: Genesee Falls

Location: Portage

General Quality and Habitat: The habitat was reported as: On calcareous mudstone outcrops above main gorge.



2 Records Processed

More detailed information about many of the rare and listed animals and plants in New York, including biology, identification, habitat, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.acris.nynhp.org, from NatureServe Explorer at <http://www.natureserve.org/explorer>, from NYSDEC at <http://www.dec.ny.gov/animals/7494.html> (for animals), and from USDA's Plants Database at <http://plants.usda.gov/index.html> (for plants).

More detailed information about many of the natural community types in New York, including identification, dominant and characteristic vegetation, distribution, conservation, and management, is available online in Natural Heritage's Conservation Guides at www.acris.nynhp.org. For descriptions of all community types, go to <http://www.dec.ny.gov/animals/29384.html> and click on Draft Ecological Communities of New York State.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Fish, Wildlife & Marine Resources
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Website: www.dec.ny.gov



Joe Martens
Commissioner

December 31, 2013

Chad Seewagen
AKRF
34 South Broadway
White Plains, NY 10601

Re: Portageville Bridge Replacement Project
Town/City: Genesee Falls, Portage. County: Livingston, Wyoming.

Dear Chad Seewagen:

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities, which our databases indicate occur, or may occur, on your site or in the immediate vicinity of your site.

NY Natural Heritage's database does not include records specifically for northern long-eared bat. We are working with NYSDEC's Bureau of Wildlife to determine what data is available on this species, and the process for getting it into the Heritage database.

We do, however, have records in our database of "bat colony", which are winter hibernacula (mines and caves) with more than one species of bats. Most of these bat colony records do include northern long-eared bats.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our databases. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. This information should not be substituted for on-site surveys that may be required for environmental impact assessment.

Our databases are continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Sincerely,

Nicholas Conrad
Information Resource Coordinator
New York Natural Heritage Program



**The following state-listed animals have been documented
at your project site, or in its vicinity.**

The following list includes animals that are listed by NYS as Endangered, Threatened, or Special Concern; and/or that are federally listed or are candidates for federal listing. The list may also include significant natural communities that can serve as habitat for Endangered or Threatened animals, and/or other rare animals and rare plants found at these habitats.

For information about potential impacts of your project on these populations, how to avoid, minimize, or mitigate any impacts, and any permit considerations, contact the Wildlife Manager or the Fisheries Manager at the NYSDEC Regional Office for the region where the project is located. A listing of Regional Offices is at <http://www.dec.ny.gov/about/558.html>.

The following species and habitats have been documented within 1.0 mi of the project site. Potential onsite and offsite impacts from the project may need to be addressed.

<i>COMMON NAME</i>	<i>SCIENTIFIC NAME</i>	<i>NY STATE LISTING</i>	<i>FEDERAL LISTING</i>
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Animal Assemblages

Bat Colony: Five bat species, including northern long-eared bat (*Myotis septentrionalis*) have been documented at this colony in the past.

Hibernaculum

1736

This report only includes records from the NY Natural Heritage databases. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. This information should not be substituted for on-site surveys that may be required for environmental impact assessment.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the listed animals in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, and from NYSDEC at <http://www.dec.ny.gov/animals/7494.html>.

Information about many of the rare plants and animals, and natural community types, in New York are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, and from NatureServe Explorer at <http://www.natureserve.org/explorer>.



**The following rare plants, rare animals, and significant natural communities
have been documented at your project site, or in its vicinity.**

We recommend that potential onsite and offsite impacts of the proposed project on these species or communities be addressed as part of any environmental assessment or review conducted as part of the planning, permitting and approval process, such as reviews conducted under SEQR. Field surveys of the project site may be necessary to determine the status of a species at the site, particularly for sites that are currently undeveloped and may still contain suitable habitat. Final requirements of the project to avoid, minimize, or mitigate potential impacts are determined by the lead permitting agency or the government body approving the project.

The following significant natural communities are considered significant from a statewide perspective by the NY Natural Heritage Program. They are either occurrences of a community type that is rare in the state, or a high quality example of a more common community type. By meeting specific, documented criteria, the NY Natural Heritage Program considers these community occurrences to have high ecological and conservation value.

COMMON NAME	SCIENTIFIC NAME	NY STATE LISTING	HERITAGE CONSERVATION STATUS
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Upland/Terrestrial Communities

Hemlock-Northern Hardwood Forest

High Quality Occurrence

Letchworth State Park: This is a relatively large, high quality hemlock-northern hardwood forest lining small tributaries and ravines of the Genesee River with very few exotic species. Multiple patches of the community are regularly spaced along the river and several very small patches of old growth exist within the community. The community is centered within a 14,500 acre natural area with good to excellent overall internal integrity and buffered by surrounding natural communities. The landscape surrounding the natural area

1195

Maple-Basswood Rich Mesic Forest

High Quality Occurrence of Uncommon Community Type

Letchworth State Park: This is a relatively large, good to high quality maple-basswood rich mesic forest on lower rocky slopes and steep west- and north-facing slopes of the uplands surrounding a 12 mile segment of the Genesee River. A few exotic plant species are present within the community, mostly limited to edge interfaces with roads, developed areas and trails. The community is located within a 14,500 acre natural area with good to excellent overall internal integrity. Agricultural land and early to mid successional comm

7522

Shale Cliff and Talus Community

High Quality Occurrence of Uncommon Community Type

Letchworth State Park: This is a large community consisting of multiple patches that flank the Genesee River and portions of its tributaries. Scouring action and hydrological processes that created and maintain the community are influenced somewhat by the presence of Mount Morris Dam, located downstream, but impacts are likely minimal, only affecting the lower portions of the 400-500 foot cliffs. The landscape is fragmented, but the community is centered within a 14,500 acre natural area with good to excellent overall internal integrity

10162

The following plants are listed as Endangered or Threatened by New York State, and/or are considered rare by the New York Natural Heritage Program, and so are a vulnerable natural resource of conservation concern.

COMMON NAME	SCIENTIFIC NAME	NY STATE LISTING	HERITAGE CONSERVATION STATUS
Mosses			
Coast creeping moss	<i>Conardia compacta</i>	Unlisted	Critically Imperiled in NYS

Portage, 2005-su: The habitat was reported as: On calcareous outcrops beside the river.

13201

This report only includes records from the NY Natural Heritage databases. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. This information should not be substituted for on-site surveys that may be required for environmental impact assessment.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the rare animals and plants in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, from NatureServe Explorer at <http://www.natureserve.org/explorer>, and from USDA's Plants Database at <http://plants.usda.gov/index.html> (for plants).

Information about many of the natural community types in New York, including identification, dominant and characteristic vegetation, distribution, conservation, and management, is available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org. For descriptions of all community types, go to <http://www.dec.ny.gov/animals/29384.html> and click on Draft Ecological Communities of New York State.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Northeast Fisheries Science Center
James J. Howard Marine Sciences Laboratory
74 Magruder Road
Highlands, New Jersey 07732

November 26, 2013

TO: Raymond F. Hessinger, PE
Director, Freight & Passenger Rail Bureau
State of New York
Department of Transportation
Albany, NY 12232

SUBJECT: Initiation of NEPA review for Portageville Bridge Project
Genesee River, Wyoming, Co. and Livingston, Co., NY

 Karen Greene
(Reviewing Biologist)

We have reviewed the information provided to us regarding the above subject project. We offer the following preliminary comments pursuant to the Endangered Species Act, the Fish and Wildlife Coordination Act and the Magnuson-Stevens Fishery Conservation and Management Act:

Endangered Species Act

No threatened or endangered species under the jurisdiction of the NMFS are known to occur in within the project area. As a result, further coordination by the federal action agency is not required. However should project plans change that would alter the basis for determination, or if new species or critical habitat is designated, coordination should be reinitiated.

Fish and Wildlife Coordination Act

Aquatic resources under the jurisdiction of the NMFS are not expected to occur in within the project area. Further coordination with NMFS is not necessary. However, should project plans change that would alter the basis for determination, coordination should be reinitiated.

Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat

No essential fish habitat (EFH) has been designated within the project area. Further EFH consultation by the federal action agency will not be required as part of the federal permit process. Should project plans change that would alter the basis for determination, or if new species or EFH is designated, consultation should be reinitiated. For a listing of EFH and further information, please go to our website at: <http://www.nero.noaa.gov/habitat> . If you wish to discuss this further, please call 732-872-3023 or e-mail me at karen.greene@noaa.gov .



B-2 Information on Species and Habitats

Appendix B: Ecology - B-2: Information on Species and Habitats

Included in this section of Appendix B:

Table B-1 Plant Species Observed at the Project Site: August 20, 2008, July 21, 2009, and June 4, 2012.

Table B-2 Breeding birds as documented by the New York State Breeding Bird Atlas for Blocks 2417A and 2417B between 2000 and 2005

Shale Cliff and Talus Community and Hemlock-Northern Hardwood Forest Community Descriptions within Letchworth State Park

Shale Cliff and Talus Community - Fact Sheet and Plant Species List

Hemlock-Northern Hardwood Forest Community - Fact Sheet and Plant Species List

Table B-1
Plant Species Observed at the Project Site

Scientific Name	Common Name	Survey Dates	
		Summer 2008 & 2009	Spring 2012
Trees and Shrubs			
<i>Acer negundo</i>	Box elder		X
<i>Acer pennsylvanicum</i>	Striped maple	X	
<i>Acer rubrum</i>	Red maple	X	X
<i>Acer saccharinum</i>	Silver maple	X	
<i>Acer saccharum</i>	Sugar maple	X	X
<i>Acer spicatum</i>	Mountain maple		X
<i>Betula alba</i>	White birch	X	
<i>Betula alleghenensis</i>	Yellow birch		X
<i>Betula papyrifera</i>	Paper birch		X
<i>Betula populifolia</i>	Gray birch	X	
<i>Carpinus caroliniana</i>	American hornbeam	X	
<i>Carya tomentosa</i>	Mockernut hickory	X	
<i>Cercis canadensis</i>	Red bud	X	
<i>Comus racemosa</i>	Gray dogwood	X	
<i>Cornus florida</i> *	Flowering dogwood		X
<i>Cornus rugosa</i>	Round Leaved dogwood		X
<i>Cornus sp.</i>	Dogwood		X
<i>Corylus americana</i>	Hazelnut	X	
<i>Crataegus sp.</i>	Hawthorne		X
<i>Fagus grandifolia</i>	Beech	X	X
<i>Fraxinus americana</i>	White ash	X	X
<i>Fraxinus pennsylvanica</i>	Green ash	X	X
<i>Gaultheria procumbens</i>	Wintergreen		X
<i>Gleditsia triacanthos</i>	Honeylocust	X	
<i>Hamamelis virginiana</i>	Common witch-hazel		X
<i>Hibiscus moscheutos</i>	Rose mallow		X
<i>Juglans nigra</i>	Black walnut	X	X
<i>Larix laricina</i>	Larch		X
<i>Liriodendron tulipifera</i>	Tuliptree	X	X
<i>Lonicera tatarica</i>	Tatarium honeysuckle	X	X
<i>Lythrum salicaria</i>	Purple loosestrife	X	X
<i>Ostrya virginiana</i>	Ironwood	X	
<i>Picea sp.</i>	Spruce sp.		X
<i>Pinus strobus</i>	Eastern white pine	X	X
<i>Platanus occidentalis</i>	Sycamore		X
<i>Populus deltoides</i>	Cottonwood	X	X
<i>Populus grandidentata</i>	Bigtooth aspen	X	
<i>Populus sp.</i>	Poplar		X
<i>Populus tremula</i>	Quaking aspen	X	
<i>Prunus serotina</i>	Black cherry	X	X
<i>Prunus virginiana</i>	Black chokecherry		X
<i>Quercus alba</i>	White oak	X	X
<i>Quercus rubra</i>	Red oak	X	X
<i>Quercus velutina</i>	Black oak	X	
<i>Rhamnus cathartica</i>	Buckthorn		X
<i>Rhus typhina</i>	Sumac	X	X
<i>Ribes sp.</i>	Gooseberry		X
<i>Robinia pseudo-acacia</i>	Black locust	X	X
<i>Rubus flagellaris</i>	Northern dewberry	X	X
<i>Rubus idaeus</i>	Red raspberry	X	X
<i>Rubus sp.</i>	Blackberry		X
<i>Salix nigra</i>	Black willow	X	

Table B-1 (cont'd)
Plant Species Observed at the Project Site

Scientific Name	Common Name	Survey Dates	
		Summer 2008 & 2009	Spring 2012
Trees and Shrubs (cont'd)			
<i>Sambucus canadensis</i>	American elderberry		X
<i>Tila Americana</i>	American basswood	X	X
<i>Tsuga canadensis</i>	Eastern hemlock	X	X
<i>Ulmus americana</i>	American elm	X	X
<i>Viburnum acerifolium</i>	Maple leaf viburnum	X	X
<i>Viburnum nudum</i>	Possum-haw	X	
Forbs			
<i>Actea</i> sp.*	Baneberry		X
<i>Ageratina altissima</i>	White snakeroot	X	X
<i>Alliaria petiolata</i>	Garlic mustard	X	X
<i>Ambrosia artemisifolia</i>	Annual ragweed	X	
<i>Amphicarpaea bracteata</i>	Hog peanut		X
<i>Anaphalis</i> sp.	Pearly everlasting		X
<i>Apocynum cannabinum</i>	Indian hemp	X	
<i>Arisaema triphyllum</i>	Jack-in-pulpit	X	X
<i>Artemesia vulgaris</i>	Mugwort		X
<i>Asaparusagus officinalis</i>	Asaparusagus		X
<i>Asclepias</i> sp.	Milkweed		X
<i>Asclepias syrica</i>	Common milkweed	X	X
<i>Aster ericoides</i>	White heath aster	X	
<i>Aster</i> sp.	Aster	X	X
<i>Bellis perennis</i>	English daisy		X
<i>Berteroa incana</i>	Hoary alyssum		X
<i>Bidens frondosa</i>	Devils beggar-ticks	X	
<i>Bidens</i> sp.	Beggars-ticks		X
<i>Centaurea maculosa</i>	Knapweed	X	
<i>Centaurea</i> sp.	Knapweed sp.		X
<i>Cerastium fontanum</i>	Large mouse's ear		X
<i>Chrysanthemum leucanthemum</i>	Oxeye daisy	X	X
<i>Cichorium intybus</i>	Chicory	X	X
<i>Cirsium arvense</i>	Canadian thistle*	X	
<i>Cirsium</i> sp.	Bull thistle		X
<i>Coronilla</i> sp.	Vetch		X
<i>Daucus carota</i>	Wild carrot	X	X
<i>Desmodium cuspidatum</i>	Largebract ticktrefoil	X	
<i>Desmodium</i> sp.	Tickfoil		X
<i>Dianthus armeria</i>	Depford pink	X	X
<i>Dipsacus sylvestris</i>	Teasel	X	
<i>Equisetum arvense</i>	Field horsetail	X	X
<i>Eupatorium coelestinum</i>	White mist flower	X	
<i>Euthamia graminifolia</i>	Lance leaved goldenrod	X	
<i>Euthamia</i> sp.	Lance leaved goldenrod		X
<i>Foeniculum</i> sp.	Fennel	X	
<i>Fragaria virginiana</i>	Wild strawberry	X	
<i>Fragaria</i> sp.	Wild strawberry		X
<i>Galium aparine</i>	Cleavers		X
<i>Galium asprellum</i>	Rough bedstraw		X
<i>Geranium robertianum</i>	Herb Robert		X
<i>Geum canadense</i>	White avens		X
<i>Glechoma hederacea</i>	Ground ivy	X	X
<i>Hesperis matronalis</i>	Dame's rocket	X	X
<i>Hieracium flagellare</i>	Large mouse's ear		X

Table B-1 (cont'd)
Plant Species Observed at the Project Site

Scientific Name	Common Name	Survey Dates	
		Summer 2008 & 2009	Spring 2012
Forbs (cont'd)			
<i>Hypericum perforatum</i>	St. Johns wort	X	
<i>Impatiens capensis</i>	Jewelweed		X
<i>Lactuca</i> sp.	Lettuce		X
<i>Lactuca scariola</i>	Prickly lettuce	X	
<i>Lamium purpureum</i>	Purple dead nettle	X	
<i>Lappula squarrosa</i>	European stickseed		X
<i>Lepidium campestre</i>	Field pepperweed		X
<i>Linaria vulgaris</i>	Butter and eggs	X	X
<i>Lotus corniculatus</i>	Birds foot trefoil	X	X
<i>Ludwigia palustris</i>	Water purslane	X	
<i>Lycopodium clavatum</i>	Clubmoss	X	
<i>Medicago lupulina</i>	Black medic		X
<i>Melilotus alba</i>	Sweet clover	X	X
<i>Melilotus officinalis</i>	Yellow sweet clover		X
<i>Mitchella repens</i>	Partridgeberry	X	
<i>Monarda</i> sp.	Beebalm		X
<i>Monotropa uniflora</i>	Indian pipe	X	
<i>Nepeta cataria</i>	Catnip	X	X
<i>Oenothera biennis</i>	Common evening primrose	X	
<i>Oxalis europaea</i>	Yellow wood sorrell	X	X
<i>Penstemon hirsutus</i>	Hairy beardtongue		X
<i>Phlox</i> sp.	Phlox	X	
<i>Plantago lanceolata</i>	European plantain	X	X
<i>Plantago major</i>	Common plantain	X	X
<i>Podophyllum peltatum</i>	Mayapple	X	X
<i>Polygonatum biflorum</i>	Solomon's-seal	X	
<i>Polygonum cuspidatum</i>	Japanese knotweed		X
<i>Polygonum virginianum</i>	Jumpseed		X
<i>Potentilla simplex</i>	Common cinquefoil	X	X
<i>Ranunculus acris</i>	Buttercup		X
<i>Rumex crispis</i>	Curly dock	X	
<i>Rumex</i> sp.	Dock		X
<i>Sanguinaria canadensis</i>	Bloodroot		X
<i>Silene vulgaris</i>	Bladder campion	X	X
<i>Solanum dulcamara</i>	Climbing nightshade		X
<i>Solidago canadensis</i>	Canada goldenrod	X	
<i>Solidago</i> spp.	Goldenrod		X
<i>Taraxacum officinale</i>	Dandelion	X	X
<i>Thalictrum polygamum</i>	Tall meadow rue	X	
<i>Thalictrum</i> sp.	Rue sp.		X
<i>Tovara virginiana</i>	Virginia knotweed	X	
<i>Trientalis borealis</i>	Starflower		X
<i>Trifolium pretense</i>	Red clover	X	X
<i>Trifolium repens</i>	White clover	X	X
<i>Tussilago farfara</i>	Coltsfoot		X
<i>Urtica dioica</i>	Stinging nettle	X	
<i>Uvularia perfoliata</i>	Sessile-leaved bellwort		X
<i>Veronica officinalis</i>	Common speedwell		X
<i>Verbascum thapsus</i>	Common mullein	X	X
<i>Viola</i> sp.	Violet	X	X
Grasses, Sedges, and Rushes			
<i>Agrostis perennans</i>	Upland bentgrass		X

Table B-1 (cont'd)
Plant Species Observed at the Project Site

Scientific Name	Common Name	Survey Dates	
		Summer 2008 & 2009	Spring 2012
<i>Agrostis stolonifera</i>	Creeping bentgrass	X	
<i>Alopecurus pratensis</i>	Foxtail	X	
<i>Anthoxanthum odoratum</i>	Spring vernal grass		X
<i>Aristida dichotoma</i>	Poverty grass	X	
<i>Bromus inermis</i>	Smooth brome	X	X
<i>Bromus tectorum</i>	Cheatgrass		X
<i>Carex digitalis</i>	Slender woodland sedge		X
<i>Carex lurida</i>	Lurid sedge		X
<i>Carex</i> spp.	Unknown sedges	X	
<i>Carex vulpinoidea</i>	Fox sedge	X	X
<i>Dactylus glomerata</i>	Orchard grass	X	X
<i>Draba praealta</i> *	Whitlow grass	X	
<i>Echinochloa crus-galli</i>	Barnyard-grass	X	X
<i>Elymus hystrix</i>	Bottlebrush-grass	X	
<i>Glyceria striata</i>	Fowl mannagrass		X
<i>Juncus effusus</i>	Soft rush	X	X
<i>Juncus tenuis</i>	Path rush	X	X
<i>Lolium perenne</i>	Rye grass	X	X
<i>Panicum</i> sp.	Panic grass	X	
<i>Phleum pratense</i>	Timothy	X	X
<i>Poa compressa</i>	Canada bluegrass		X
<i>Poa pratensis</i>	Kentucky bluegrass	X	
<i>Poa</i> sp.	Bluegrass		X
<i>Scirpus atrovirens</i>	Green bulrush	X	
<i>Setaria pumila</i>	Yellow foxtail	X	X
<i>Festuca elatior</i>	Tall fescue		X
<i>Trisetum spicatum</i>	Gammagrass	X	
Ferns			
<i>Asplenium</i> sp.*	Spleenwort sp.		X
<i>Dennstaedtia punctilobula</i>	Hayscented fern		X
<i>Dryopteris carthusiana</i> *	Spinulose wood fern		X
<i>Dryopteris intermedia</i> *	Intermediate woodfern		X
<i>Mattuccia struthiopteris</i> *s	Ostrich fern		X
<i>Onoclea sensibilis</i>	Sensitive fern		X
<i>Osmunda cinnamomea</i> *	Cinnamon fern		X
<i>Polystichum acrostichoides</i> *	Christmas fern	X	X
<i>Pteridium aquilinum</i>	Bracken fern	X	X
<i>Thelypteris noveboracensis</i> *	New York fern	X	X
<i>Dryopteris</i> sp.*	Wood fern	X	X
<i>Dryopteris marginalis</i> *	Marginal woodfern		X
Vines			
<i>Celastrus orbiculatus</i>	Asiatic bittersweet		X
<i>Clematis virginiana</i>	Virgins bower		X
<i>Vinca minor</i>	Periwinkle	X	X
<i>Vitis</i> sp.	Grape		X
<i>Parthenocissus quinquefolia</i>	Virginia creeper		X
<i>Toxicodendron radicans</i>	Poison ivy		X
<i>Ipomoea pandurata</i>	Morning glory	X	
<i>Vitis riparia</i>	Riverbank grape	X	
Notes: Summer observations were conducted on August 20, 2008 and July 21, 2009; Spring observations were conducted on June 4, 2012. (*) denotes a New York State-listed "Exploitably vulnerable" plant.			

Table B-2
Bird Species within Breeding Bird Blocks
2417A and 2417B

Common Name	Scientific Name
Eastern phoebe	<i>Sayornis phoebe</i>
Great crested flycatcher	<i>Myiarchus crinitus</i>
Eastern kingbird	<i>Tyrannus tyrannus</i>
Yellow-throated vireo	<i>Vireo flavifrons</i>
Blue-headed vireo	<i>Vireo solitarius</i>
Warbling vireo	<i>Vireo gilvus</i>
Red-eyed vireo	<i>Vireo olivaceus</i>
Blue jay	<i>Cyanocitta cristata</i>
American crow	<i>Corvus brachyrhynchos</i>
Common raven	<i>Corvus corax</i>
Horned lark	<i>Eremophila alpestris</i>
Tree swallow	<i>Tachycineta bicolor</i>
Northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>
Bank swallow	<i>Riparia riparia</i>
Barn swallow	<i>Hirundo rustica</i>
Black-capped chickadee	<i>Poecile atricapillus</i>
Tufted titmouse	<i>Baeolophus bicolor</i>
Red-breasted nuthatch	<i>Sitta canadensis</i>
White-breasted nuthatch	<i>Sitta carolinensis</i>
Brown creeper	<i>Certhia americana</i>
House wren	<i>Troglodytes aedon</i>
Winter wren	<i>Troglodytes troglodytes</i>
Golden-crowned kinglet	<i>Regulus satrapa</i>
Blue-gray gnatcatcher	<i>Poliophtila caerulea</i>
Eastern bluebird	<i>Sialia sialis</i>
Veery	<i>Catharus fuscescens</i>
Swainson's thrush	<i>Catharus ustulatus</i>
Hermit thrush	<i>Catharus guttatus</i>
Wood thrush	<i>Hylocichla mustelina</i>
American robin	<i>Turdus migratorius</i>
Gray catbird	<i>Dumetella carolinensis</i>
Brown thrasher	<i>Toxostoma rufum</i>
European starling	<i>Sturnus vulgaris</i>
Cedar waxwing	<i>Bombycilla cedrorum</i>
Blue-winged warbler	<i>Vermivora pinus</i>
Brewster's warbler	<i>Vermivora pinus</i> x <i>V. chrysoptera</i>
Nashville warbler	<i>Vermivora ruficapilla</i>
Yellow warbler	<i>Dendroica petechia</i>
Chestnut-sided warbler	<i>Dendroica pensylvanica</i>
Magnolia warbler	<i>Dendroica magnolia</i>
Black-throated blue warbler	<i>Dendroica caerulescens</i>
Yellow-rumped warbler	<i>Dendroica coronata</i>
Black-throated green warbler	<i>Dendroica virens</i>
Blackburnian warbler	<i>Dendroica fusca</i>
Pine warbler	<i>Dendroica pinus</i>
Cerulean warbler	<i>Dendroica cerulea</i>
Black-and-white warbler	<i>Mniotilta varia</i>
American redstart	<i>Setophaga ruticilla</i>
Ovenbird	<i>Seiurus aurocapilla</i>
Louisiana waterthrush	<i>Seiurus motacilla</i>
Mourning warbler	<i>Oporornis philadelphia</i>
Common yellowthroat	<i>Geothlypis trichas</i>

Table B-2 (cont'd)
Bird Species within Breeding Bird Blocks
2417A and 2417B

Common Name	Scientific Name
Hooded warbler	<i>Wilsonia citrina</i>
Canada warbler	<i>Wilsonia canadensis</i>
Eastern towhee	<i>Pipilo erythrophthalmus</i>
Chipping sparrow	<i>Spizella passerina</i>
Field sparrow	<i>Spizella pusilla</i>
Vesper sparrow	<i>Poocetes gramineus</i>
Savannah sparrow	<i>Passerculus sandwichensis</i>
Song sparrow	<i>Melospiza melodia</i>
White-throated sparrow	<i>Zonotrichia albicollis</i>
Dark-eyed junco	<i>Junco hyemalis</i>
Scarlet tanager	<i>Piranga olivacea</i>
Northern cardinal	<i>Cardinalis cardinalis</i>
Rose-breasted grosbeak	<i>Pheucticus ludovicianus</i>
Indigo bunting	<i>Passerina cyanea</i>
Bobolink	<i>Dolichonyx oryzivorus</i>
Red-winged blackbird	<i>Agelaius phoeniceus</i>
Eastern meadowlark	<i>Sturnella magna</i>
Common grackle	<i>Quiscalus quiscula</i>
Brown-headed cowbird	<i>Molothrus ater</i>
Baltimore oriole	<i>Icterus galbula</i>
Purple finch	<i>Carpodacus purpureus</i>
House finch	<i>Carpodacus mexicanus</i>
American goldfinch	<i>Spinus tristis</i>
House sparrow	<i>Passer domesticus</i>
Blue-winged teal	<i>Anas discors</i>
Hooded merganser	<i>Lophodytes cucullatus</i>
Pied-billed grebe	<i>Podilymbus podiceps</i>
Northern harrier	<i>Circus cyaneus</i>
Red-shouldered hawk	<i>Buteo lineatus</i>
Virginia rail	<i>Rallus limicola</i>
Sora	<i>Porzana carolina</i>
Yellow-billed cuckoo	<i>Coccyzus americanus</i>
Red-headed woodpecker	<i>Melanerpes erythrocephalus</i>
Carolina wren	<i>Thryothorus ludovicianus</i>
Marsh wren	<i>Cistothorus palustris</i>
Golden-winged warbler	<i>Vermivora chrysoptera</i>
Lawrence's warbler	<i>Vermivora chrysoptera</i> x <i>V. pinus</i>
Northern parula	<i>Parula Americana</i>
Northern waterthrush	<i>Seiurus noveboracensis</i>
Swamp sparrow	<i>Melospiza Georgiana</i>
Grasshopper sparrow	<i>Ammodramus savannarum</i>
Source: NYSDEC Breeding Bird Atlas, 2000–2005.	

Shale Cliff and Talus Community
and Hemlock-Northern Hardwood Forest
Community Descriptions within Letchworth State Park

Information furnished by OPRHP on September 14, 2012

Notes:

- This document provides data on two ecological communities within Letchworth State Park and is not intended for use as survey data for the study area.
- This document has been modified to show only the communities that are relevant to the study area.

Shale Cliff and Talus Community and Hemlock-Northern Hardwood Forest Community Descriptions within Letchworth State Park

Shale cliff and talus community, Letchworth State Park:

- **Comments on Significance:** This is a large community consisting of multiple patches that flank the Genesee River and portions of its tributaries. Scouring action and hydrological processes that created and maintain the community are influenced somewhat by the presence of Mount Morris Dam, located downstream, but impacts are likely minimal, only affecting the lower portions of the 400-500 foot cliffs. The landscape is fragmented, but the community is centered within a 14,500 acre natural area with good to excellent overall internal integrity. The natural area is surrounded by agricultural and early to mid successional community types.
- **Data:** This community consists of 4 patches totaling 427 acres and ranging from less than 8.5 to 169 acres in size. Average patch size within this community is roughly 107 acres. The community occupies the exposed limestone/shale bedrock that makes up the walls of Letchworth Canyon. Tall shrubs found shading or growing from the base of the cliff or the top of the cliff include *Tilia americana* (1%) and *Fraxinus americana*. Short shrubs include *Populus tremuloides* (1%), *Amelanchier canadensis*, *Acer negundo*, *Rubus phoenicolasius* and *Viburnum acerifolium* (each <1%). The herb layer is dominated by *Festuca* sp. (5%), *Parnassia glauca* (4%), *Lobelia kalmii* (2%), *Solidago canadensis* (1%), *Calamagrostis canadensis* and *Hypericum perforatum* (<1%). Mosses occupy approximately 8% of the lower portions of the rock surface and liverworts about 3%. The unvegetated surfaces include rock/shale (72%) and sand (5%).
- **Disturbances:** Farmland completely surrounds the community. About 31 miles of moderately to lightly traveled paved roads bisect the state park natural area. Hiking trails and recreational developments including campgrounds, cabin villages, picnic grounds, and paved parking lots and overlooks are the most consistent, widespread form of human disturbance and land use. A large operational dam is located downstream and used to control the water levels of the Genesee River. Hikers are taken into the canyon on a relatively regular basis by park personnel and independent visitors can easily gain access to the canyon from the Gardeau Overlook, but impacts along the shale cliff and talus community appear to be minimal.
- **Threats:** The network of hiking trails in the area are the most prevalent form of disturbance consistently found in the surrounding natural area. These trails are also regularly and at times heavily used for mountain biking and soil erosion was observed at numerous steep-sided stream crossings within the adjacent hemlock-northern hardwood forest. Within the community, current and most probable forms of disturbance in the future are related to future water control efforts and potential impacts from visitors.

Hemlock-northern hardwood forest, Letchworth State Park:

- **Comments on Significance:** This is a relatively large, high quality hemlock-northern hardwood forest lining small tributaries and ravines of the Genesee River with very few exotic species. Multiple patches of the community are regularly spaced along the river and several very small patches of old growth exist within the community. The community is centered within a 14,500 acre natural area with good to excellent overall internal integrity and buffered by surrounding natural communities. The landscape surrounding the natural area is primarily agricultural and early to mid successional community types.
- **Data:** This community consists of 81 patches totaling 2401 acres and ranging from less than 1 acre to 196 acres in size. Average patch size within this community is roughly 29 acres. The community lies along and lines the deep ravines of the numerous small tributaries of the Genesee River. Overall canopy cover across the area averages 71% with an overstory (29 m) of *Tsuga canadensis* (35%), *Acer saccharum* (9%), *Quercus alba* (7%) and *Pinus strobus* (5%). The subcanopy (18m) is *Tsuga canadensis* (9%), *Fagus grandifolia* (4%), and *Acer saccharum* (3%). Shrub composition consists of *Tsuga canadensis* (5%), *Acer saccharum* (2%) and *Ostrya virginiana* (2%) in the tall shrub layer (4.2m) and *Viburnum acerifolium* (3%) and *Fagus grandifolia* (2%) in the short shrub (0.8 m) layer. The herb layer is sparsely vegetated with *Carex pensylvanica* (1%), *Dryopteris marginalis* (1%) and numerous other species including *Polystichum acrostichoides*, *Maianthemum canadense*, *Aster divaricatus*, *Solidago caesia*, *Ariseama Triphyllum* (all <1%) and more. Mosses occupy roughly 2% of the forest floor (mostly on rocks) and unvegetated surfaces include litter (60%), wood (6%), rock (6%) ranging from 10 to 40 centimeters in size, and exposed soil (11%). The average diameter of canopy trees is about 55 cm and subcanopy species approximately 20 cm.
- **Site Description:** The community lies along and within the numerous deep ravines and associated small tributaries of the Genesee River. The landscape surrounding the community is largely farmland in all directions with maximum elevations of about 1300 feet on rolling hilltops. Mature Appalachian oak-hickory and hemlock-northern hardwood forests dominate the landscape. Large patches of maple-basswood rich mesic forest are encountered on fine textured soils often associated with significant rock outcropping and north-facing slopes, and small patches of red-maple hardwood swamps occur along level streams and in wet depressions. The presence of the meandering Genesee River adds considerable diversity to the area. The deep gorge of this midreach stream supports an extensive shale cliff and talus community, several patches of floodplain forest, and numerous cobble shores.
- **Disturbances:** Farmland completely surrounds the community. About 31 miles of moderately to lightly traveled paved roads bisect the state park natural area. Hiking trails and recreational developments including campgrounds, cabin villages, picnic grounds, and paved parking lots and overlooks are the most consistent, widespread form of human disturbance.
- **Threats:** The network of hiking trails in the area are the most prevalent form of disturbance consistently found within the community. These trails are also regularly and at times heavily used for mountain biking. Soil erosion was observed at numerous steep-sided stream crossings in the community.

Shale Cliff and Talus Community

Fact Sheet and Species List
as documented by the
New York Office of Parks, Recreation and Historic Preservation
and the New York Natural Heritage Program

Information furnished by OPRHP on September 14, 2012
(Note: this information is not intended for use as survey data for the study area.)

Shale cliff and talus community



DJ Evans

STATUS

Global Rank: G4
Federal Status: Unprotected

State Rank: S3?
State Status: Unprotected

DESCRIPTION

A community that occurs on nearly vertical exposures of shale bedrock and includes ledges and small areas of talus. Talus areas are composed of small fragments that are unstable and steeply sloping; the unstable nature of the shale results in uneven slopes and many rock crevices. There is minimal soil development and vegetation is sparse. Different types of shale cliffs may be distinguished based on exposure and moisture; these variations are not well documented in New York, therefore the assemblages associated with these variations (sunny, shaded, moist, or dry areas) are combined in one community. Characteristic species include blunt-lobed woodsia (*Woodsia obtusa*), rusty woodsia (*W. ilvensis*), penstemon (*Penstemon hirsutus*), herb-robert (*Geranium robertianum*), cyperus (*Cyperus filiculmis*), little bluestem (*Schizachyrium scoparium*), panic grass (*Panicum linearifolium*), Pennsylvania sedge (*Carex pensylvanica*), and eastern red cedar (*Juniperus virginiana*). A characteristic invertebrate is the silvery blue butterfly (*Glaucopsyche lygdamus*) which feeds on wood-vetch (*Vicia caroliniana*). More data on this community are needed.

DISTRIBUTION

New York State: Scattered throughout upstate New York, north of the Coastal Lowlands ecozone, where bedrock is shale. Examples include Neversink Guymard Cliffs, Orange County and Whetstone Gulf, Lewis County.

Letchworth State Park: The shale cliff and talus community consists of exposed limestone/shale bedrock that makes up the walls of Letchworth Canyon. At approximately 180 meters in height, the cliff consists of 4 patches ranging from 8.5 to 169 acres and totaling 427 acres. Average patch size is 107 acres. This is the largest example of shale cliff and talus community in the state.



DJ Evans

**Species List for SHALE CLIFF AND TALUS COMMUNITY
at Letchworth State Park**

TREES	
<i>Acer negundo</i> EX <i>Betula populifolia</i> <i>Fraxinus americana</i> <i>Populus deltoides</i> <i>Populus tremuloides</i> <i>Tilia americana</i>	
SHRUBS AND VINES	
<i>Acer pensylvanicum</i> <i>Amelanchier canadensis</i> <i>Berberis thunbergii</i> EX <i>Rubus odoratus</i> <i>Rubus phoenicolasius</i> EX <i>Salix eriocephala</i> <i>Salix exigua</i> <i>Viburnum acerifolium</i>	
HERBS	
<i>Aster novae-angliae</i> <i>Aster prenanthoides</i> <i>Calamagrostis canadensis</i> <i>Campanula rotundifolia</i> <i>Centaurea maculosa</i> EX <i>Cinna latifolia</i> <i>Coronilla varia</i> EX <i>Cystopteris fragilis</i> <i>Daucus carota</i> EX <i>Epilobium coloratum</i> <i>Eupatorium maculatum</i> <i>Eupatorium perfoliatum</i> <i>Eupatorium rugosum</i> <i>Euthamia graminifolia</i> <i>Festuca</i> sp. <i>Hypericum perforatum</i> <i>Impatiens capensis</i> <i>Juncus</i> sp. <i>Leucanthemum vulgare</i> EX	<i>Lobelia kalmii</i> <i>Lycopus uniflorus</i> <i>Melilotus alba</i> EX <i>Muhlenbergia</i> sp. <i>Parnassia glauca</i> * <i>Phalaris arundinacea</i> <i>Pilea pumila</i> <i>Polygonum cuspidatum</i> EX <i>Prenanthes alba</i> <i>Saxifraga virginensis</i> <i>Sedum</i> sp. <i>Senecio obovatus</i> <i>Solidago canadensis</i> <i>Solidago nemoralis</i> <i>Solidago ohioensis</i> (G4 S2) <i>Tussilago farfara</i> EX <i>Verbascum thapsus</i> EX <i>Verbena hastata</i>
NON-VASCULAR	
<i>Anomodon rostratus</i> <i>Brachythecium</i> sp. * <i>Fissidens adianthoides</i> <i>Marchantia polymorpha</i> <i>Plagiothecium laetum</i>	
* = most abundant species; <i>species</i> (G5 S1) = rare species; EX = exotic species	

Hemlock-Northern Hardwood Forest Community

Fact Sheet and Species List
as documented by
the New York Office of Parks, Recreation and Historic Preservation
and the New York Natural Heritage Program

Information furnished by OPRHP on September 14, 2012
(Note: This information is not intended for use as survey data for the study area.)

Hemlock-northern hardwood forest



DJ Evans

STATUS

Global Rank: G4G5
Federal Status: Unprotected

State Rank: S4
State Status: Unprotected

DESCRIPTION

A mixed forest that typically occurs on middle to lower slopes of ravines, on cool, mid-elevation slopes, and on moist, well-drained sites at the margins of swamps. In any one stand, hemlock (*Tsuga canadensis*) is codominant with any one to three of the following: beech (*Fagus grandifolia*), sugar maple (*Acer saccharum*), red maple (*A. rubrum*), black cherry (*Prunus serotina*), white pine (*Pinus strobus*), yellow birch (*Betula alleghaniensis*), black birch (*B. lenta*), red oak (*Quercus rubra*), and basswood (*Tilia americana*). The relative cover of hemlock is quite variable, ranging from nearly pure stands in some steep ravines to as little as 20% of the canopy cover. Striped maple (*Acer pensylvanicum*) is often prominent as a mid-story tree. The shrublayer may be sparse; characteristic shrubs are hobblebush (*Viburnum lantanoides*), maple-leaf viburnum (*Viburnum acerifolium*), and raspberries (*Rubus* spp.). In some ravines, especially in the southern part of the state, rosebay (*Rhododendron maximum*) forms a dense subcanopy or tall shrublayer. Canopy cover can be quite dense, resulting in low light intensities on the forest floor and hence a relatively sparse groundlayer. Characteristic groundlayer plants are Indian cucumber-root (*Medeola virginiana*), Canada mayflower (*Maianthemum canadense*), shining clubmoss (*Lycopodium lucidulum*), common wood fern (*Dryopteris intermedia*), mountain wood fern (*Dryopteris campyloptera*), christmas fern (*Polystichum acrostichoides*), star flower (*Trientalis borealis*), bellwort (*Uvularia sessilifolia*), common wood-sorrel (*Oxalis acetosella*), partridge berry (*Mitchella repens*), foamflower (*Tiarella cordifolia*), round-leaf violet (*Viola rotundifolia*), twisted stalk (*Streptopus roseus*), purple trillium (*Trillium erectum*), and the moss *Leucobryum glaucum*. In forests that have beech as a codominant, beech-drops (*Epifagus virginiana*) is a common herb.

This is a broadly defined and very widespread community, with many regional and edaphic variants. For example, in the Hudson Valley, hemlock is sometimes codominant with red oak; in the Adirondacks, yellow birch and sugar maple are sometimes codominant, with a relatively small number of hemlocks as well as a few red spruce (*Picea rubens*). More data on the shrublayer and groundlayer composition are needed before these regional variants can be distinguished as separate types.

DISTRIBUTION

New York State: Throughout New York State. Examples include Ampersand Mountain, Essex County; Big Basin in Allegany State Park, Cattaraugus County; Luzerne Mountain, Warren County.

Letchworth State Park: Situated within and along the deep ravines of the numerous small tributaries to the Genesee River, this community consists of 81 patches totaling over 2400 acres. The patches range in size from less than 1 acre to 196 acres, with an average size of 29 acres. The community forms a mosaic with Appalachian oak-hickory and large patches of maple-basswood rich mesic forest.

**Species List for HEMLOCK-NORTHERN HARDWOOD FOREST
at Letchworth State Park**

TREES	HERBS
<i>Acer rubrum</i> <i>Acer saccharum</i> * <i>Betula alleghaniensis</i> <i>Betula lenta</i> <i>Betula papyrifera</i> <i>Carya glabra</i> <i>Carya ovalis</i> <i>Fagus grandifolia</i> <i>Fraxinus americana</i> <i>Ostrya virginiana</i> <i>Pinus strobus</i> * <i>Quercus alba</i> * <i>Quercus rubra</i> <i>Tilia americana</i> <i>Tsuga canadensis</i> *	<i>Arisaema triphyllum</i> <i>Aster acuminatus</i> <i>Aster divaricatus</i> <i>Carex pensylvanica</i> * <i>Carex plantaginea</i> <i>Carex platyphylla</i> <i>Cystopteris bulbifera</i> <i>Dryopteris carthusiana</i> <i>Dryopteris intermedia</i> <i>Dryopteris marginalis</i> * <i>Epifagus virginiana</i> <i>Galium triflorum</i> <i>Geranium robertianum</i> <i>Hepatica nobilis</i> <i>Impatiens pallida</i> <i>Maianthemum canadense</i> <i>Maianthemum racemosum</i> <i>Mitchella repens</i> <i>Pilea pumila</i> <i>Poa</i> sp. <i>Polygala paucifolia</i> <i>Polystichum acrostichoides</i> <i>Solidago caesia</i> <i>Uvularia sessilifolia</i> <i>Veronica officinalis</i> EX
SHRUBS AND VINES	NON-VASCULAR
<i>Acer pensylvanicum</i> <i>Acer spicatum</i> <i>Amelanchier arborea</i> <i>Gaylussacia baccata</i> <i>Hamamelis virginiana</i> <i>Lonicera morrowii</i> EX <i>Magnolia acuminata</i> <i>Rubus odoratus</i> <i>Taxus canadensis</i> <i>Vaccinium pallidum</i> <i>Viburnum acerifolium</i> *	<i>Leucobryum glaucum</i> <i>Marchantia polymorpha</i>
* = most abundant species; <i>species</i> (G5 S1) = rare species; EX = exotic species	

B-3 Consultation Related to Northern Long-Eared Bats



STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
ALBANY, N.Y. 12232

WWW.DOT.NY.GOV

JOAN McDONALD
COMMISSIONER

ANDREW M. CUOMO
GOVERNOR

April 3, 2014

Mr. Michael Kowalczyk
Area Engineer - Regions 6 & 9
FHWA New York Division
Leo W. O'Brien Federal Building
11A Clinton Ave, Suite 719
Albany, NY 12207

Re: PIN 4935.79.101
Portageville Bridge over the Genesee River
Wyoming and Livingston Counties
Biological Evaluation of Northern Long-eared Bat

Dear Mr. Kowalczyk:

Enclosed for your review is a Biological Evaluation of the northern long-eared bat (*Myotis septentrionalis*; Proposed Endangered) for the Portageville Bridge Project. The northern long-eared bat is the only federally Endangered, Threatened, Proposed, or Candidate species listed by the U.S. Fish and Wildlife Service's Information, Planning, and Conservation System as occurring within Livingston and Wyoming Counties.

The project includes construction of a new rail bridge approximately 75 feet to the south of the existing structure and removal of the existing rail bridge. The shift of the bridge to the south would require a realignment of the railroad as it approaches the river crossing on each side. Approximately three total acres of mostly hemlock-northern hardwood forest along the edges of the rail right-of-way would need to be cleared for this project. It is estimated that approximately 750 trees that are ≥ 3 inches in diameter would be removed.

Based on data gathered from a review of existing literature and a commitment to restrict tree cutting for this project to October 31 to March 31, we have determined that the project, "May Affect, but is Not Likely to Adversely Affect," the federally-Proposed Endangered northern long-eared bat. The enclosed Biological Evaluation documents the information used to make this determination.

Mr. Michael Kowalczyk

April 3, 2014

Page 2

Your review and concurrence with our determination is needed to complete our federal threatened/endangered species process. If you have any comments or questions on this evaluation or need additional information on this project, please contact Catherine Leslie at 518-485-9449.

Sincerely,

A handwritten signature in dark ink, appearing to read "Daniel P. Hitt". The signature is fluid and cursive, with the first name "Daniel" being more prominent than the last name "Hitt".

Daniel P. Hitt, RLA

(Acting) Co-Director, Office Environment

Enclosures: Biological Evaluation

Electronic

cc: Raymond Hessinger, NYSDOT Freight and Passenger Rail Bureau
Scott Sheeley, NYSDEC
David Denk, NYSDEC
Chris Calvert, AKRF
Julie Cowing, AKRF

Biological Evaluation For the Portageville Bridge Project

April 2014

[SENSITIVE INFORMATION REDACTED]

Federal Lead Agency:

Federal Highway Administration

State Lead Agency:

New York State Department of Transportation

Owner:

Norfolk Southern Railway Company

Prepared by:

AKRF, Inc.

INTRODUCTION

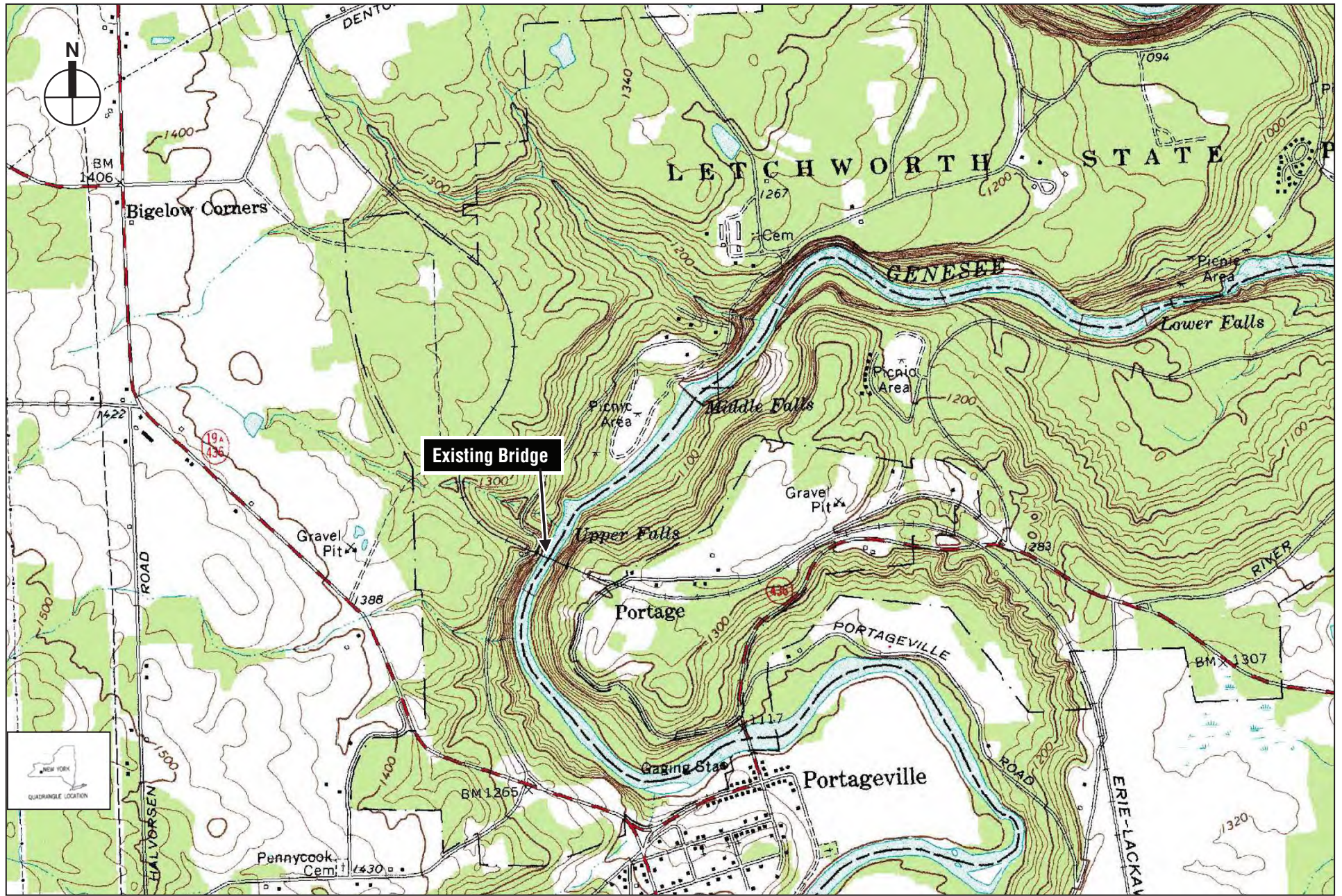
Norfolk Southern Railway Company (Norfolk Southern) is proposing to replace the Portageville Bridge, a rail bridge that crosses the Genesee River between Wyoming and Livingston Counties in New York State (see **Figure 1**). The existing bridge is at the end of its useful life as a freight rail structure, and without action to substantially upgrade or replace the bridge (“the project”), the crossing may need to be taken out of service. Environmental review for the Portageville Bridge project began in 2008, when the New York State Department of Transportation (NYSDOT) initiated a review of the project in accordance with the New York State Environmental Quality Review Act (SEQRA). A scoping process was conducted in accordance with SEQRA (which included notice to state and federal agencies that may be required to issue permits or approvals for the project) and a SEQRA Draft Environmental Impact Statement (EIS) was made available for public comment, with a comment period that extended from November 26, 2012 through February 1, 2013. During the SEQRA review, potentially interested federal, state, and local agencies were invited to participate.

At this time, with anticipation of federal funding through the Congestion Mitigation and Air Quality program by the Federal Highway Administration (FHWA), FHWA and NYSDOT are preparing a Draft EIS (DEIS) in accordance with the National Environmental Policy Act (NEPA). FHWA is serving as the lead federal agency for the EIS and NYSDOT is serving as the state lead agency. A Notice of Intent to prepare a DEIS was published in the *Federal Register* on October 31, 2013.

In accordance with federal environmental review requirements, FHWA and NYSDOT are initiating consultation under section 7 of the Endangered Species Act (ESA). The northern long-eared bat (NLEB; *Myotis septentrionalis*; Proposed Endangered) is the only federally Endangered, Threatened, Proposed, or Candidate species listed by the USFWS Information, Planning, and Conservation System as occurring within Livingston and Wyoming Counties. This Biological Evaluation addresses potential effects of the proposed project to the northern long-eared bat to provide a basis for a determination in accordance with the ESA. For the reasons discussed below, it was determined that the proposed project may affect, but is not likely to adversely affect, the NLEB. Concurrence with this conclusion is requested from the USFWS.

PROJECT DESCRIPTION

The Portageville Bridge crosses the Genesee River on right-of-way owned by Norfolk Southern, but within the boundaries of the Letchworth State Park. The existing bridge, which opened to rail traffic in 1875, is in need of substantial upgrade or replacement for the crossing to remain in service. Norfolk Southern is proposing to construct a new single-track arch bridge 75 feet to the south of the existing bridge. The shift of the bridge to the south would require a realignment of the railroad right-of-way as it approaches the river crossing on each side. New track would be laid approximately 1,200 feet east and 1,200 feet west of the existing bridge. In addition, to accommodate the new bridge, a section of the park road that passes beneath the rail alignment on the



0 1000 2000 FEET
SCALE

Source: USGS Topographic Map - Portageville, NY Quadrangle
78°2'58" W, 42°34'40" N

PORTAGEVILLE BRIDGE

Location of Portageville Bridge
Figure 1

west side of the river (known as Park Road) and a small parking lot nearby would have to be relocated.

Construction of the project would require approximately 27 months and would be planned to occur throughout the entire year, although there could be times when inclement winter weather would require temporary shutdowns. While the specific construction schedule depends on the completion of environmental review and receipt of required permits, it is anticipated that construction will begin in late 2014. During construction, rail freight traffic would continue to use the Southern Tier route using the existing bridge. Construction would include the following primary activities:

1. Clearing and grading for new rail alignment to the east and west of the new bridge location.
2. Establishing construction staging areas.
3. Excavation of rock at the top of the gorge wall on both sides of the river in the area where the new bridge's arch buttress foundations would be constructed.
4. Construction of the new bridge's arch superstructure.
5. Construction of new approach spans and tracks (after this step, rail freight traffic would be shifted from the existing bridge to the new bridge).
6. Removal of the existing bridge.
7. Clearing and grading of areas for the new roadway and parking lot, and subsequent construction of the new roadway and parking lot.

CONTROLLED ROCK BLASTING FOR BRIDGE FOUNDATIONS

Norfolk Southern proposes to use controlled blasting to excavate the rock for the bridge's arch buttress foundations. The use of controlled blasting for the excavation would expedite the construction schedule compared to the other excavation technique available - rock hammering - which could extend the duration of the rock excavation component of construction by four to six times longer than controlled blasting, and result in much higher noise levels. The project construction schedule assumes that the controlled blasting for rock excavation would be performed simultaneously on each side of the river by two separate crews. Given the logistical difficulties in excavating the gorge face, it is currently anticipated that only one to two controlled blasts per side of the gorge would occur per week. Depending on the number of such blasts each week and the volume excavated per blast, blasting would likely require approximately 4 to 8 months on the west side of the river and 6 to 11 months on the east side.

Each controlled blast would excavate a discrete area and be designed to minimize vibration, "air blast" effects, and airborne rock, so as to protect the gorge walls, river, and existing rail bridge. Blast mats would be used to minimize rock fall and muffle the noise of the detonation. The noise of the controlled rock blasting would be a low rumbling sound that would result in less instantaneous (peak) airborne noise than the

freight trains that currently cross the existing bridge 10 to 14 times per day and generate a peak noise level of approximately 95 dBA.

PILE INSTALLATION FOR BRIDGE FOUNDATIONS

On each side of the river, the approach bridge spans leading to the main arch span over the gorge would be supported on concrete piers. The piers would have pile-supported foundations, requiring micropiles to be drilled into the rock on each side of the river. Pile drilling would last an estimated two months on each side of the gorge (and could occur simultaneously on both sides or on one side at a time). Pile drilling would be one of the loudest construction activities for the project and would emit an estimated 85 dBA of noise at a distance of 50 feet from the source, with two drilling rigs operating at the same time.

TREE CLEARING

It is estimated that construction of the project would require the removal of approximately 1.7 acres of hemlock–northern hardwood forest on the west side of the Genesee River, along the edges of Park Road, the Highbridge Parking Area, and the existing railroad right-of-way. The tree clearing on the west side would extend approximately 275 feet south and 200 feet north from the existing railroad right-of-way tracks. Clearing of approximately 1.3 total acres of trees on the east side of the river, to the south of the rail tracks, would also be required (see **Figure 2**). Of these 1.3 acres, approximately 0.9 acres is disturbed successional northern hardwood forest and the remaining 0.4 acres is a steep slope of mature hemlock–northern hardwood forest. The clearing on the east side would also occur along forest edge, in a narrow section of forest that is bounded to the west by the river and to the east by farmland outside of the park boundary. The clearing would extend approximately 150 feet south from the rail tracks.




On the basis of an average tree density of 620 trees (≥ 3 inches diameter at breast height [DBH]) per hectare in Letchworth State Park (Roberts and Norment 1999), it can be estimated that the project would require the removal of around 750 trees that are ≥ 3 inches DBH (the minimum size considered by USFWS [2014] to be a potential NLEB roost tree).

NORTHERN LONG-EARED BAT SPECIES INFORMATION

HABITAT ASSOCIATIONS

The NLEB is a cave-hibernating, insectivorous bat that ranges throughout most of the eastern United States and the temperate regions of Canada. Outside of the winter hibernation period, NLEBs generally inhabit mature, closed-canopy, deciduous or mixed forest within heavily forested landscapes (Owen et al. 2003, Carter and Feldhammer 2005, Ford et al. 2005), usually within about 60 miles of their hibernaculum (Caceras and Barclay 2000, USFWS 2014). The NLEB is considered to be an interior-forest-dependent species that requires large tracts of unbroken forest for both foraging and breeding (Foster and Kurta 1999, Broders et al. 2006, Henderson et al. 2008). Unlike many other bats of the Northeast, NLEBs will glean prey from leaves and other surfaces



-  Areas of Forest Clearing Required for the Project
-  Existing Bridge
-  Limits of Disturbance

0 400 FEET
SCALE

rather than strictly hawking flying insects in the air, and are thereby well-adapted to foraging in cluttered, structurally complex, forest interior habitat (Owen et al. 2003, Lacki et al. 2007). Their diet reflects this behavior and consists mainly of flightless invertebrates such as arachnids, orthopterans, and coleopterans (Feldhammer et al. 2009, Lee and McCracken 2004). Most foraging occurs above the understory and below the canopy of forested hillsides and ridges (Brack and Whitaker 2001, Harvey et al. 2011, USFWS 2014). In contrast to strictly aerial-foraging bat species, NLEBs do not frequently concentrate along riparian corridors or other linear landscape features (Owen et al. 2003, Ford et al. 2005, Harvey et al. 2011, USFWS 2014), and most radio-telemetry and acoustic studies have found that they tend to avoid roads and other sharp forest edges (Owen et al. 2003, Patriquin and Barclay 2003, Carter and Feldhammer 2005, Morris et al. 2010), where prey availability is expected to be lower than in the forest interior (Owen et al. 2003). Mature forest is considered to be the most important foraging habitat for the NLEB (USFWS 2013, 2014).

Summer roosts of the NLEB are usually in cavities or, less often, under exfoliating bark of large-diameter trees that have high and dense canopy cover (Foster and Kurta 1999, Menzel et al. 2002, Carter and Feldhammer 2005; reviewed by Barclay and Kurta 2007), but the USFWS (2014) considers trees as small as 3 inches DBH to be potential roost sites. Roosts on buildings and other artificial structures have been documented, but are rare relative to tree roosts and the use of artificial structures by many other bat species (e.g., *M. lucifugus*, *Eptesicus fuscus*) (Keeley and Tuttle 1999, Henderson and Broders 2008, Timpone et al. 2010, Harvey et al. 2011, USFWS 2014). NLEBs are generalistic in their selection of roost tree species and have been documented using more than 35 different species of trees (USFWS 2013, 2014), but they use deciduous trees more so than coniferous trees and show a strong preference for black locust (*Robinia pseudoacacia*) relative to its availability (Menzel et al. 2002, Owen et al. 2002, Ford et al. 2006, Johnson et al. 2009). Roost trees are usually in intact forest, close to the core and away from large clearings, roads, or other sharp edges (Menzel et al. 2002, Owen et al. 2003, Carter and Feldhammer 2005). NLEBs, including lactating females, will use many different roost trees, often switching roosts every 1 to 5 days and moving hundreds of meters between successive locations (Menzel et al. 2002, Owen et al. 2002, Johnson et al. 2009).

At the end of the summer maternity season, NLEBs, like other *Myotis* species, enter a fall “swarming” period, during which time they mate and visit their hibernaculum (Fenton 1969, Adams 2013). Swarming is a little-studied nocturnal activity of bats that takes place within and near the entrance to the hibernaculum during the late summer and early fall (August 1 to October 30 in New York for the NLEB [USFWS 2014]). Some individuals remain close to the entrance while others fly or roost deep within (Ormsbee et al. 2007). One potential function of this behavior is to introduce young-of-the-year to the hibernation site, but the full purpose is still unclear (Fenton 1969, Ormsbee et al. 2007).

POPULATION STATUS

The NLEB has recently undergone severe population declines due to the outbreak of White-nose Syndrome (WNS) - an emerging infectious disease caused by the fungus *Geomyces destructans*, which was first discovered in New York's Howe's Cave in 2006 and has since spread to more than 190 bat hibernacula in 23 states and 5 Canadian provinces (Reeder and Moore 2013, BCI 2014). Bats infected with WNS suffer structural damage to their wing membranes and exhibit aberrant hibernation behavior and physiology, the consequences of which are usually fatal (Reeder and Moore 2013).

The NLEB has experienced the steepest population decline of the six species of bats in the Northeast that are affected by WNS, with numbers at monitored hibernacula in several states dropping by an average of 98% since 2006 (Turner et al. 2011, Langwig et al. 2012, Reeder and Moore 2013). Population models for the closely-related Indiana bat (*Myotis sodalis*) and little brown bat (*M. lucifugus*), which have experienced lower relative population declines of 72% and 91%, respectively, project imminent broad-scale extirpation of these species throughout much of their range (Frick et al. 2010, Thogmartin et al. 2013), indicating that the NLEB is also at extremely high risk of extinction. In New York State, pre- and post-WNS count data available from 18 northern long-eared bat hibernacula show local population extinction at all but 4 of the sites and suggest an average statewide population decline of 97% (Turner et al. 2011). Even prior to the outbreak of WNS, the NLEB was uncommon in New York State and many other parts of eastern North America relative to most other bats (Turner et al. 2011, Langwig et al. 2012, Moosman et al. 2013), possibly in part due to their sensitivity to deforestation and fragmentation (Henderson et al. 2008).

Largely due to the dramatic and sudden decline in NLEB populations from WNS, the USFWS recently proposed the species for listing as Endangered under the federal Endangered Species Act of 1973. Approval of the proposal and official listing of the NLEB as Endangered is expected within the year. The NLEB is not currently listed at the state level in New York, but upon federal listing, will automatically become a New York State-Endangered species as well. WNS is, and will likely continue to be, the most significant threat facing the NLEB. Other threats that are believed to be cumulatively affecting NLEB populations include wind turbine mortality, climate change, pollution, habitat loss and degradation, and human disturbance during hibernation (USFWS 2013).

POTENTIAL FOR OCCURANCE IN THE PROJECT AREA

Letchworth State Park contains large tracts of mature, closed-canopy forest that provide the types of foraging and roosting habitat that are most favored by non-hibernating NLEBs. In addition, [REDACTED]

[REDACTED] has historically been used as a hibernaculum by five species of bats, including the NLEB (NYNHP 2013, NYSDEC 2014). The most recent internal survey of the hibernaculum was in 1982, and the NLEB was documented during that survey. Internal surveys have not been conducted since 1982 [REDACTED]

██████████ and in the time since, the New York Department of Environmental Conservation (NYSDEC) has instead periodically captured bats emerging ██████████ at the end of the hibernation season to monitor the species and abundance of bats wintering there. The last survey of bats ██████████ was in March 2010, and NLEBs were recorded (NYSDEC 2014). Because NLEBs often spend the summer maternity season within close proximity to their hibernaculum, and Letchworth State Park contains favorable breeding habitat for the species, the park has most likely supported a breeding population of the NLEB in recent decades. Given the range-wide collapse of the species since 2006 and the spread of WNS to Livingston County (Reeder and Moore 2013), however, it is uncertain whether a local population is still extant. The 2010 emergence survey coincided with the time period when the spread of WNS is believed to have reached western New York, and the NLEBs captured during the survey were indeed infected with WNS (NYSDEC 2014). The effect of WNS on the abundance of bats in this hibernaculum over the four winters that have passed since the last survey is unknown, but is likely to be significant, and complete eradication is very possible (e.g., Turner et al. 2011).

NLEBs potentially remaining in Letchworth State Park would be most likely to occur during the non-hibernating seasons in the park's interior forest rather than the fragmented and edge-dominated sections of the park, such as the area in which the project site is located. The project site lacks interior forest and is intersected by roads, a parking area, the railroad right-of-way, and the wide river gorge. As discussed above, NLEBs typically avoid roads and other sharp forest edges, and do not concentrate along river corridors like strictly aerial-foraging species of bats commonly do. It nevertheless remains possible that the NLEB occurs in the vicinity of the project site, and for the purposes of this biological evaluation, NLEBs are conservatively assumed to be present in the area.

POTENTIAL IMPACTS OF THE PROPOSED PROJECT

Elements of the proposed project that would have the potential to affect the NLEB include tree clearing and construction noise. Construction noise would have potential indirect effects by elevating levels of anthropogenic disturbance in the area, and tree clearing would have potential direct effects by permanently removing potential roost trees and/or foraging habitat. For the reasons discussed below, and with the implementation of Conservation Measures set forth in the USFWS Northern Long-eared Bat Interim Conference and Planning Guidance (USFWS 2014), it is concluded that the proposed project may affect, but is not likely to adversely affect, the NLEB.

CONSTRUCTION NOISE




The sensitivity of hibernating bats to noise and other disturbances has been well-documented. Noise and movement can easily arouse bats from hibernation, which wastes fat reserves, and in turn, lowers their chances of surviving the winter (Thomas et al. 1990, Boyles and Brack 2009). The USFWS (2014) guidelines for avoiding disturbance to hibernating NLEBs recommend avoidance of continuous (longer than 24

hours) noises of greater than 75 dBA within one mile of a hibernaculum. It is estimated that the noisiest construction activities would reach a maximum of approximately 85 dBA at the project site. Construction noises would be greatly attenuated at the distance of the potential NLEB hibernaculum [REDACTED]. On the basis of a standard noise attenuation factor (or “drop off”) of 6 dBA for every doubling of outdoor distance between the noise source and the receptor (USDOT 2006), construction noises exceeding 75 dBA would be limited to within 100 feet of the project site (see **Figure 3**). The maximum construction noise level near the potential hibernaculum and swarming area [REDACTED] would be only 40.5 dBA. Noise emissions from the construction of the proposed project would therefore be consistent with the USFWS guidance for avoiding noise disturbances to hibernating and swarming NLEBs. In reality, construction noise would likely be even weaker and less audible than 40.5 dBA at the hibernaculum due to the masking effect of the Upper and Middle Falls [REDACTED]. In addition, as explained below, sounds from the construction activities would likely be outside of the hearing range of, and inaudible to, the NLEB. For these reasons, construction noises from the proposed project would not be expected to adversely affect any NLEBs swarming and hibernating [REDACTED].

In contrast to the documented sensitivity of bats during hibernation, the sensitivity of bats to disturbances during the maternity season is poorly understood. As with most animals, it is likely that non-hibernating bats initially experience increased acute stress levels in response to novel disturbances such as loud noises (Bowles 1995, Niver 2009), but any effects this may subsequently have on their condition, reproduction, or survival are unclear. Research findings on this subject have been somewhat ambiguous. Some studies outside of the hibernation season have shown foraging and nursing behaviors of bats to be easily disrupted by disturbances from human activities, including cave tourism (Mann et al. 2002), music concerts (Shirley et al. 2001), and even minor vegetation clearing near roost trees (Callahan 1993). Bats have also been shown to avoid foraging in noisy environments (Schaub et al. 2008, Murphy et al. 2009). Reductions in maternity colony size and complete colony abandonment following disturbances have been reported (Barbour and Davis 1969, Stihler and Hall 1993). Other studies, however, have found loud noises and reverberations associated with aircrafts and military training activities to have no noticeable effect on foraging or roosting locations of bats (Shapiro and Hohmann 2005, Le Roux 2010). Some bats, such as the closely-related, federally Endangered Indiana bat, are known to roost along interstate highways, near airports, and under bridges (Sparks et al. 1998, Keeley and Tuttle 1999, Niver 2009), suggesting they are tolerant of noises and vibrations associated with human activity. The foraging behaviors and roosting locations of Indiana bats on military bases were found to be similar between nights with and without loud artillery training exercises (Shapiro and Hohmann 2005), which also suggests that some bats are not easily disturbed by loud noises outside of the hibernation period.

The hearing range of the NLEB has not been described, but is likely similar to that of the congeneric little brown bat. Little brown bats detect sounds of 10-130 kHz (Moss and



-  Existing Bridge
-  Limit at which Noise from Bridge Construction Drops from Projected Maximum of 85 dBA to below 75 dBA
-  Limits of Disturbance

0 400 FEET

SCALE

Schnitzler 1995), with peak sensitivity between 35 and 40 kHz (Grinnell 1963). Echolocation calls and social signals of the NLEB range 49-117 kHz and 30-70 kHz, respectively (Faure et al. 1993, Miller and Treat 1993). Noises from construction equipment (e.g., rock crushers, earthmovers, bulldozers) and rock blasting typically fall well below these frequency ranges (Delaney and Grubb 2004, Niver 2009), and are therefore unlikely to be highly audible to *Myotis* bats or interfere with their ability to echolocate (Niver 2009). Animals that use echolocation have an acute ability to sense reverberations (Simmons 1983) and it has been suggested that vibrations generated from rock blasting or other human activities could cause bats to abandon roosts (Niver 2009), but as mentioned above, many bats, including the NLEB, may roost in locations with substantial vibration levels, such as major airports (e.g., Sparks et al. 1998).

Baseline levels of anthropogenic noise at the project site are high under the existing condition, as the existing Portageville Bridge is currently in use by Norfolk Southern for daily rail freight service. Trains that are approximately 2,700 feet long pass over the bridge at slow speeds (10 miles per hour or less) approximately 10 to 14 times each day (including nighttime). During field visits, trains were observed to take approximately 4 to 6 minutes to pass over the bridge, and created substantial noise as they did so. Typical instantaneous peak train noise associated with a train pass-by is estimated at 95 dBA at the bridge. In addition, the waterfall located directly under the bridge, Upper Falls, generates notable noise in the vicinity of the project area and has a masking effect on other sounds. The proposed controlled rock blasting would be muffled by blast mats, resulting in a low rumbling sound that would generate less airborne noise than the freight trains crossing the existing bridge. Pile drilling – the noisiest of the proposed construction activities – would generate a sound exposure noise level of approximately 85 dBA (with two drilling rigs operating simultaneously) at the project site, which would be 10 dBA below the noise levels currently generated by train pass-bys (although pile drilling would be of longer duration). In addition, as discussed above, sound greatly attenuates with distance outdoors, and the loudest construction noises would drop from 85 dBA at the project site to 75 dBA at a distance of 100 feet away, 56 dBA at 900 feet away, 47 dBA at 2600 feet away, and 40.5 dBA 1 mile away. Construction noise would therefore only exceed the level of 75 dBA recommended in the USFWS (2014) NLEB guidelines within 100 feet of the project site (see **Figure 3**). Consistent with the USFWS (2014) NLEB guidelines, no construction noises would be generated continuously for longer than 24 hours and construction activities after sunset would be minimized to the extent practicable during the summer maternity and fall swarming periods.

Use of the project area by the NLEB under existing conditions would depend on their tolerance of the noise and vibration levels resulting from the daily passage of the approximately 10 to 14 trains over the existing bridge. If NLEBs currently occur in the area, they may adjust to the noise and vibration generated by the construction of the proposed project such that use of the project area as potential roosting and/or foraging habitat would not be affected. Some individuals, however, could potentially be startled by the noise and vibration sufficiently to flee from daytime roosts if any were to occur in the area, and shift roost sites to a location farther away from the construction. Given the

abundance of forest cover within Letchworth State Park (over 10,000 contiguous acres), any displaced bats would likely be able to locate suitable alternative roosting and foraging habitat elsewhere nearby. Because NLEB have large home ranges (over 150 acres [Owen et al. 2003]) and naturally change roost sites daily or semi-daily throughout the non-hibernating seasons (Menzel et al. 2002, Owen et al. 2002, Johnson et al. 2009), they would be expected to easily relocate away from any noise disturbances without significant adverse impact.

TREE CLEARING

Realignment of the eastern and western bridge approaches of the railroad right-of-way and relocation of Park Road and the Highbridge Parking Area would require clearing of approximately 3.0 total acres of successional northern hardwood forest and mature, mixed hemlock-northern hardwood forest (roughly estimated to total 750 trees \geq 3 inches DBH). The acreage of forest that would be lost during construction of the project would represent a minimal reduction in the thousands of acres of woodland available to NLEBs within Letchworth State Park and neighboring areas. In addition, all tree removal would occur 275 feet or less from the rail tracks along the edges of the rail right-of-way, road, or parking area (see **Figure 2**), where trees are likely to be of low value to the NLEB relative to trees in interior, core forest. As discussed above, NLEBs tend to avoid sharp forest edges and roads in favor of interior forest habitat for both foraging and roosting. Consistent with the USFWS (2014) guidelines for avoiding impacts to summer and fall roosting and foraging habitat, tree clearing for the proposed project would not fragment contiguous woodland or a woodland corridor. Also following the USFWS (2014) guidelines, sediment and erosion control measures would be implemented, preexisting topography would be restored as necessary within areas of disturbance that are not occupied by project elements, and disturbed areas would be restored with native vegetation.

In accordance with the recommended guidelines of the USFWS (2014), all tree clearing would occur between October 31 and March 31, outside of the summer maternity season and fall swarming period in New York State, to avoid potential impacts that could result from the removal of active roost trees and foraging habitat. With this measure in place, tree clearing for the project would not be expected to have direct impacts to the NLEB.

CONCLUSION

The NLEB has declined precipitously since 2006 due to WNS, and WNS continues to be the chief factor jeopardizing the species. Other factors, including habitat loss and fragmentation, and anthropogenic disturbance, may have additional, cumulative effects on NLEB populations (USFWS 2013). Replacement of the Portageville Bridge and the associated realignment of its eastern and western approaches would require mechanical construction activity and tree clearing in an area that contains suitable NLEB habitat and is in close proximity [REDACTED] to [REDACTED] that has been used in the past, and could still be used, as a hibernaculum by the NLEB. However, construction of the proposed project would be largely consistent with the conservation measures

outlined in the USFWS guidelines for avoiding or minimizing impacts to the NLEB and would not be expected to jeopardize the species.

Construction noises above the 75 dBA criterion noted in the USFWS guidelines would extend a maximum of only 100 feet from the project site, and would not occur continuously for long periods of time or, except for unusual circumstances, after sunset. In addition, the frequency of the construction noises would likely be outside of the hearing range of, and inaudible to, the NLEB. Given that forest cover within the surrounding Letchworth State Park is extensive (over 10,000 acres), NLEB home ranges cover large areas, and NLEBs naturally change roost sites almost daily throughout the non-hibernating seasons, any NLEBs potentially displaced from the project area would be expected to easily relocate away from any noise disturbances without significant adverse impact.

Consistent with the USFWS recommended guidelines, all tree clearing would be limited to forest edge (along the existing rail right-of-way, a road, and a parking area), such that no intact forest habitat preferred by the NLEB would be lost or fragmented. NLEBs are often found to avoid roads and other sharp forest edges in favor of foraging and roosting in deep, interior forest. Tree clearing for the project would therefore be unlikely to result in the loss of high quality, preferred NLEB habitat, and would represent a minimal reduction in the amount of woodland in the surrounding landscape. However, because of the possibility that trees within the area of disturbance could be used by the NLEB as roost sites or foraging habitat, all tree clearing would occur between the October 31 to March 31 hibernation period, following USFWS recommended guidelines. Also in accordance with USFWS recommended guidelines, all tree clearing would include sediment and erosion control measures, and post-construction restoration of native vegetation and original topography wherever practicable.

For the purposes of consultation under section 7(a)(2) of the ESA, we conclude that the proposed project may affect, but is not likely to adversely affect, the NLEB.

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From: Kowalczyk, Michael (FHWA)
Sent: Saturday, April 05, 2014 3:04 PM
To: 'FW5ES_NYFO@fws.gov'
Cc: 'Dan Hitt'; 'Raymond.Hessinger@dot.ny.gov'; 'Catherine.Leslie@dot.ny.gov'
Subject: RE: PIN 4935.79 - MANLAA Northern Long Eared Bat Letter for Portageville Bridge Project in the Towns of Portage and Genesee Falls, Livingston and Wyoming Counties

David,

Here are the attachments for PIN 4935.79 - MANLAA Northern Long Eared Bat - Portageville Bridge Project in the Towns of Portage and Genesee Falls, Livingston and Wyoming Counties.

Hard copy to follow.

Thank you,

Michael S. Kowalczyk
Area Engineer - Regions 6 & 9
ADHS Coordinator
FHWA New York Division
Leo W. O'Brien Federal Building
11A Clinton Ave, Suite 719
Albany, NY 12207
Phone: 518-431-8892
Fax: 518-431-4121

From: Kowalczyk, Michael (FHWA)
Sent: Friday, April 04, 2014 3:24 PM
To: 'FW5ES_NYFO@fws.gov'
Cc: Dan Hitt; Raymond.Hessinger@dot.ny.gov; Catherine.Leslie@dot.ny.gov
Subject: PIN 4935.79 - MANLAA Northern Long Eared Bat Letter for Portageville Bridge Project in the Towns of Portage and Genesee Falls, Livingston and Wyoming Counties

David,

Here is the PIN 4935.79 - MANLAA Northern Long Eared Bat Letter for Portageville Bridge Project in the Towns of Portage and Genesee Falls, Livingston and Wyoming Counties.

Hard copy to follow with the Biological Evaluation write up.

Thank you,

Michael S. Kowalczyk
Area Engineer - Regions 6 & 9
ADHS Coordinator
FHWA New York Division
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United States Department of the Interior

FISH AND WILDLIFE SERVICE

3817 Luker Road
Cortland, NY 13045



May 14, 2014

Mr. Michael Kowalczyk, Area Engineer
Federal Highway Administration
Leo W. O'Brien Federal Building
11A Clinton Avenue, Suite 719
Albany, NY 12207

Dear Mr. Kowalczyk:

This letter responds to your letter of April 4, 2014, regarding the New York State Department of Transportation's (NYSDOT) proposed Portageville railroad bridge replacement project over the Genesee River in the Towns of Portage and Genesee Falls, Livingston and Wyoming Counties, NY (PIN 4935.79).

The U.S. Fish and Wildlife Service (Service) has reviewed the NYSDOT Biological Assessment dated April 2014, and the Federal Highway Administration (FHWA) concurrence letter dated April 4, 2014, and is providing the following comments pursuant to our authorities under the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

The NYSDOT proposes to remove the existing railroad bridge owned by Norfolk Southern Railway Company and construct a new bridge approximately 75 feet south of the existing structure. The existing structure will be removed. The project will require removal of approximately 750 trees (approximately 3 acres) within the right-of-way. Controlled blasting will be used to excavate the rock and install the bridge's arch foundations. We understand that this method minimizes noise and reduces the duration of the bridge construction.

As you are aware, the northern long-eared bat (*Myotis septentrionalis*) is currently proposed for listing as endangered under the ESA and a final listing decision is expected in October 2014. At this time, no critical habitat has been proposed for the species. Pursuant to Section 7(a)(4) of the ESA, federal action agencies are required to confer with the Service if their proposed action is likely to jeopardize the continued existence of the northern long-eared bat. Action agencies may also voluntarily confer with the Service if the proposed action may affect a proposed species.

Species proposed for listing are not afforded protection under the ESA; however, as soon as a listing becomes effective, the prohibition against jeopardizing its continued existence and "take"¹ applies regardless of an action's stage of completion. If the FHWA retains any discretionary

¹ Take is defined in Section 3 of the ESA as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.

applies regardless of an action's stage of completion. If the FHWA retains any discretionary involvement or control over on-the-ground actions that may affect the species after listing, Section 7 consultation procedures apply. Additional information regarding the northern long-eared bat and conference procedures can be found at <http://www.fws.gov/midwest/endangered/mammals/nlba/index.html>

The NYSDOT proposes to remove trees that may be suitable for northern long-eared bats between October 31 and March 31 to avoid direct impacts to roosting bats during the summer. Based on the conservation measures proposed, the FHWA determined that the proposed project may affect, but is not likely to adversely affect the proposed endangered northern long-eared bat. The Service concurs with your determination and no further coordination is required at this time.

If the northern long-eared bat is listed, and if project activities are expected to continue after this determination, this concurrence will serve to satisfy consultation requirements pursuant to section 7 of the ESA, provided that: (1) the project scope and activities remain unchanged; (2) any applicable or any proposed conservation measures are implemented; and (3) there are no other changes (e.g., to the landscape, habitat, etc.) that may affect the newly-listed species and that have not already been analyzed in this consultation.

Should project plans change, or if additional information on listed or proposed species or critical habitat becomes available, this determination may be reconsidered. The most recent compilation of federally listed and proposed endangered and threatened species in New York is available for your information. Until the proposed project is complete, we recommend that you check our website every 90 days from the date of this letter to ensure that listed species presence/absence information for the proposed project is current.

Please note that this letter of concurrence fulfills your requirements under the ESA. Additional comments may be provided regarding other fish and wildlife resources.

If you have any questions regarding this letter, please contact Sandra Doran at (607)753-9334. Future correspondence regarding this project should reference ES project number 08-I-0733.

Sincerely,



for David A. Stilwell
Field Supervisor

*Additional information referred to above may be found on our website at:
<http://www.fws.gov/northeast/nyfo/es/section7.htm>

cc: NYSDEC, Avon, NY (S. Sheeley)
NYSDEC, Buffalo, NY 14203 (D. Denk)
NYSDEC, Albany, NY (Wildlife Diversity)
NYSDOT, Albany, NY (D. Hitt)
FHWA, Albany, NY (M. Toni)

B-4 Consultation Related to Bald Eagles



Environmental and Planning Consultants

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May 10, 2013

Ms. Sarah Nystrom
Northern States Bald and Golden Eagle Coordinator
U.S. Fish and Wildlife Service - Northeast Region
300 Westgate Center Drive
Hadley, MA 01035

Re: Portageville Bridge Replacement Project – Eagle Take Permit Application

Dear Ms. Nystrom:

On behalf of the Norfolk Southern Railway Company, I am pleased to submit the enclosed bald eagle take permit application and monitoring plan for the Portageville Bridge Replacement Project across the Genesee River, near Portageville, New York. The Portageville Bridge is a vital, yet currently deficient, component of the Southern Tier route which is a critical freight rail link between Buffalo and Binghamton, serving communities in western and southern New York State and northern and eastern Pennsylvania, and providing connections to Canada and the Eastern Seaboard of the U.S. The Portageville Bridge was constructed in 1875 and is at the end of its useful life as a freight rail structure. Without action to replace the bridge (i.e., the Project), the crossing may need to be taken out of service. This would substantially impair Norfolk Southern's ability to operate on a substantial portion of the Southern Tier route and would negatively impact the economies of the many locations it serves.

You and I corresponded in October of last year about the Project and the presence of a bald eagle nest approximately [REDACTED] from the Project site. Following your assessment that the Project is unlikely to, but may impact bald eagles associated with this nest, I have prepared the enclosed take permit application. For the reasons presented therein, it is agreed that an impact to nesting bald eagles from the Project is unlikely, but Norfolk Southern is committed to all practicable measures that would further minimize the potential for any impact. Included with the permit application is a monitoring plan that will allow us to determine at the outset of the Project (currently scheduled to begin in August of this year) whether construction activities, including pile drilling, rock blasting, and truck passage are altering the behavior of the fledglings and/or adults at this nest site. If signs of disturbance to bald eagles are detected at any point, USFWS (and NYSDEC) will be contacted to discuss the observations and determine what course of action is appropriate.

Please feel free to contact me by email at cseewagen@akrf.com or by telephone at (914) 922-2384 if you have any questions regarding either the permit application or monitoring plan.

Sincerely,

A handwritten signature in black ink, appearing to read 'Chad Seewagen', with a long horizontal flourish extending to the right.

Chad L. Seewagen, Ph.D.
Senior Wildlife Biologist

cc: J. Carter (Norfolk Southern)
K. Hauschildt (Norfolk Southern)
K. Stamy (Norfolk Southern)
R. Hessinger (NYSDOT)
S. Collins (AKRF)
J. Cowing (AKRF)



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July 31, 2013

Ms. Sarah Nystrom
Northern States Bald and Golden Eagle Coordinator
U.S. Fish and Wildlife Service - Northeast Region
300 Westgate Center Drive
Hadley, MA 01035

Re: Portageville Bridge Replacement Project – Revision of Eagle Take Permit Application and Monitoring Plan

Dear Ms. Nystrom:

As we discussed on the phone a few weeks ago, it cannot be determined at this time when construction of the Portageville Bridge replacement would occur and I have therefore modified Attachments 1 and 2 of our original bald eagle take permit application (submitted May 10, 2013) accordingly. The changes reflect the varying sensitivity of bald eagles to human disturbance at different points in the nesting cycle, and the anticipated consequences of beginning construction at these different times of year. Please replace "Attachments 1" and "Attachment 2" of the original application with the enclosed revisions. I have also enclosed the corresponding figures for your convenience, but they are no different from the versions submitted with our May 10, 2013 application.

Please let me know if you have any questions concerning the revised attachments or any of the original application materials. I can be reached by email at cseewagen@akrf.com or by telephone at (914) 922-2384. Thank you for your time and continued assistance with this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Chad L. Seewagen".

Chad L. Seewagen, Ph.D.
Senior Wildlife Biologist